

IN THE CLAIMS

Please amend the claims as follows:

1. (Withdrawn) A heat sink, comprising:

a plurality of laterally placed planar fins forming from a sheet, the plurality of laterally placed planar fins defining a folded fin structure having a top, a bottom, and a front, each fin having an aspect ratio of between about 20:1 and 30:1, wherein the top of at least one fin of the folded fin structure comprises an arch, further wherein the top of the at least one fin includes a trimmed opening that extends along a portion of the length of the top of the at least one fin, the trimmed opening formed by removing the arch along the portion of the length of the top of the at least one fin;

a base attached to the bottom of the folded fin structure; and

at least two clips to attach and thermally couple the folded fin structure to the base, the at least two clips not in contact with the top of the folded fin structure when in place.

2. (Withdrawn) The heat sink of claim 1, further comprising a fan attached to the folded fin structure to introduce a convection medium.

3. (Withdrawn) The heat sink of claim 2 wherein the fan is a first fan attached to the top of the folded fin structure, further comprising a second fan attached to the front of the folded fin structure to introduce a convection medium in a direction different from the first fan.

4. (Canceled)

5. (Withdrawn) The heat sink of claim 1, wherein the sheet is made from a material selected from a group consisting of copper, aluminum, a compound containing copper, a compound containing aluminum, or thermally conductive plastic.

6. (Withdrawn) The heat sink of claim 2, wherein the folded fin structure allows greater than fifty percent of the plurality of laterally placed planar fins to be receptive to the convection medium.
7. (Withdrawn) The heat sink of claim 6, wherein the convection medium is guided by the folded fin structure to flow parallel to each surface of each fin of the plurality of laterally placed planar fins and parallel to the base.
8. (Withdrawn) The heat sink of claim 1, wherein the base is solid.
9. (Withdrawn) The heat sink of claim 8, wherein the base is made from a material selected from a group consisting of copper, aluminum, a compound containing copper, a compound containing aluminum, or manufactured diamond.
- 10-21. (Canceled)
22. (Currently Amended) A heat sink, comprising:
a thermally conductive sheet creased in an accordion fold to form a plurality of surfaces defining a fin bundle having a top and a bottom, each fin having an aspect ratio of between about 20:1 and 30:1, wherein the aspect ratio is a ratio of fin height to fin thickness and the top of the fin bundle is modified to create a plurality of trimmed openings that extend along a portion of the length of the top of the fin bundle, wherein the top of the fin bundle comprises a plurality of arches and the trimmed openings are formed by removing the plurality of arches along the portion of the length of the top, wherein more than fifty percent of the plurality of surfaces are receptive to an introduced convection medium;
a fan for introducing the convection medium, the fan attached to the top of the fin bundle;
a base attached to the bottom of the fin bundle; and
a clip to attach and thermally couple the base to the bottom of the fin bundle, the clip not in contact with the top of the fin bundle when in place.

23. (Previously Presented) The apparatus of claim 22, wherein the sheet is made from an alloy containing aluminum.
24. (Previously Presented) The apparatus of claim 22, wherein the base is made out of manufactured diamond.
25. (Withdrawn) The heat sink of claim 2 wherein the fan is attached to the top of the folded fin structure.
26. (Withdrawn) The heat sink of claim 2 wherein the fan is attached to the front of the folded fin structure.
27. (Previously Presented) The heat sink of claim 22 wherein the fan guides the convection medium to flow substantially parallel to the fin bundle and substantially parallel to the base.
28. (Currently Amended) A heat sink, comprising:
a thermally conductive sheet creased in an accordion fold to form a plurality of surfaces defining a fin bundle having a top and a bottom, each fin having an aspect ratio of between about 20:1 and 30:1, wherein the aspect ratio is a ratio of fin height to fin thickness and the top of the fin bundle is modified to create a plurality of trimmed openings that extend along a portion of the length of the top of the fin bundle, wherein the top of the fin bundle comprises a plurality of arches, and the trimmed openings are formed by removing the plurality of arches along the portion of the length of the top, wherein more than fifty percent of the plurality of surfaces are receptive to an introduced convection medium;
a first fan for introducing the convection medium in a first direction, the fan attached to the top of the fin bundle;
a second fan for introducing the convection medium in a second direction, the second fan attached to the front of the folded fin structure; and
a base attached to the bottom of the fin bundle.

29. (Previously Presented) The heat sink of claim 28 wherein the first direction is substantially parallel to the fin bundle and the second direction is substantially parallel to the base.
30. (Previously Presented) The heat sink of claim 28 wherein the fin bundle is attached to the base with bonding means.
31. (Previously Presented) The heat sink of claim 30 wherein the bonding means is selected from the group consisting of brazing, epoxy and soldering.
32. (Previously Presented) The heat sink of claim 28 further comprising at least one clip to attach and thermally couple the base to the bottom of the fin bundle.
33. (Withdrawn) The heat sink of claim 32 comprising at least two clips, wherein the at least two clips are not in contact with the top of the fin bundle when in place.
34. (Withdrawn) The heat sink of claim 33 wherein thermal gel is deposited between the bottom of the fin bundle and the base.
35. (Withdrawn) The heat sink of claim 33 wherein thermal grease, epoxy, phase-changed material or thermal interface material is deposited between the bottom of the fin bundle and the base.
36. (Currently Amended) A heat sink, comprising:
a thermally conductive sheet creased in an accordion fold to form a plurality of surfaces defining a fin bundle having a top and a bottom, each fin having an aspect ratio of between about 20:1 and 30:1, wherein the aspect ratio is a ratio of fin height to fin thickness and the top of the fin bundle is modified to create a plurality of trimmed openings that extend along a portion of the length of the top of the fin bundle, wherein the top of the fin bundle comprises a plurality of

arches and the trimmed openings are formed by removing the plurality of arches along the portion of the length of the top, wherein more than fifty percent of the plurality of surfaces are receptive to an introduced convection medium;

a first fan for introducing the convection medium, the fan attached to the top of the fin bundle;

a second fan for introducing the convection medium, the fan attached to the front of the fin bundle;

a base attached to the bottom of the fin bundle; and

a clip to attach and thermally couple the base to the bottom of the fin bundle, the clip not in contact with the top of the fin bundle when in place.

37. (Previously Presented) The heat sink of claim 36 wherein the first fan guides the convection medium to flow parallel to the fin structure.

38. (Previously Presented) The heat sink of claim 36 wherein the second fan guides the convection medium to flow parallel to the base.

39. (Previously Presented) The heat sink of claim 36 wherein the sheet is made from a material selected from a group consisting of copper, aluminum, a compound containing copper, a compound containing aluminum, or thermally conductive plastic.

40. (Previously Presented) The heat sink of claim 36 wherein the sheet is made from an alloy containing aluminum.

41. (Previously Presented) The heat sink of claim 36 wherein the base is made out of manufactured diamond.

42. (Previously Presented) The heat sink of claim 36 wherein thermal gel is deposited between the bottom of the fin bundle and the base.

43. (Previously Presented) The heat sink of claim 36 wherein thermal grease, epoxy, phase-changed material or thermal interface material is deposited between the bottom of the fin bundle and the base.

Please add the following new claims:

44. (New) A heat sink, comprising:

a thermally conductive sheet creased in an accordion fold to form a plurality of surfaces defining a fin bundle having a top and a bottom, each fin having an aspect ratio of between about 20:1 and 30:1, wherein the aspect ratio is a ratio of fin height to fin thickness and the top of the fin bundle is modified to create a plurality of trimmed openings that extend along a portion of the length of the top of the fin bundle, wherein the top of the fin bundle comprises a plurality of arches and the trimmed openings are formed by removing the plurality of arches along the portion of the length of the top, wherein more than fifty percent of the plurality of surfaces are receptive to an introduced convection medium;

a fan for introducing the convection medium, the fan attached to the top of the fin bundle;

a base attached to the bottom of the fin bundle, wherein thermal gel, epoxy, phase-changed material or thermal interface material is deposited between the bottom of the fin bundle and the base; and

non-clipping means to attach and thermally couple the base to the bottom of the fin bundle.

45. (New) The heat sink of claim 44 wherein the non-clipping means comprises bonding the base to the bottom of the fin bundle.

46. (New) The heat sink of claim 45 wherein the base is bonded to the bottom of the fin bundle by brazing, soldering or applying an epoxy.